

SYSTEM FOR CARDIAC PROCEDURES

ABSTRACT OF THE DISCLOSURE

5 A system for accessing a patient's cardiac anatomy which includes an
endovascular aortic partitioning device that separates the coronary arteries and the
heart from the rest of the patient's arterial system. The endovascular device for
partitioning a patient's ascending aorta comprises a flexible shaft having a distal end,
a proximal end, and a first inner lumen therebetween with an opening at the distal
end. The shaft may have a preshaped distal portion with a curvature generally
10 corresponding to the curvature of the patient's aortic arch. An expandable means, e.g.
a balloon, is disposed near the distal end of the shaft proximal to the opening in the
first inner lumen for occluding the ascending aorta so as to block substantially all
blood flow therethrough for a plurality of cardiac cycles, while the patient is
supported by cardiopulmonary bypass. The endovascular aortic partitioning device
15 may be coupled to an arterial bypass cannula for delivering oxygenated blood to the
patient's arterial system. The heart muscle or myocardium is paralyzed by the
retrograde delivery of a cardioplegic fluid to the myocardium through patient's
coronary sinus and coronary veins, or by antegrade delivery of cardioplegic fluid
through a lumen in the endovascular aortic partitioning device to infuse cardioplegic
20 fluid into the coronary arteries. The pulmonary trunk may be vented by withdrawing
liquid from the trunk through an inner lumen of an elongated catheter. The cardiac
accessing system is particularly suitable for removing the aortic valve and replacing
the removed valve with a prosthetic valve.